

Discussion of the Claim Rejection under 35 U.S.C. § 112, ¶2

In the Office Action, the Examiner rejected Claims 14-21 for the following reasons under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14

With reference to Claim 14, the Examiner stated that:

A. *"[I]t is not clear how all the elements are operatively interconnected."*

Applicant respectfully disagrees. Figures 2 and 3 of the specification represents one embodiment of a block diagram for the Remote Interface Board (RIB) and the connectivity to the microcontroller bus. Figures 2 and 3 show a microcontroller (200), a microcontroller bus (160) providing data communication with other microcontrollers (Figure 2), a memory in data communication with the microcontroller (208), a first port (204) capable of receiving and transmitting monitoring data and a second port (226) capable of receiving and transmitting environmental conditions data, wherein the environmental conditions data corresponds to the environmental conditions of a computer and wherein the second port includes connectivity to the microcontroller bus (160). Further, Figure 3 shows the operative interconnection of these elements within the RIB as represented by the solid line joining the elements.

B. *"It is not clear if the microcontroller is connected to the bus."*

Figures 2 and 3 illustrate one embodiment where the remote interface microcontroller (200) is connected to the microcontroller bus extender (230), which is connected to the microcontroller bus. The bus extender (230) functions as a buffer providing amplification for the signals. For example, the signals on the microcontroller bus are received from the server (100) by the RIB (104) on the RJ-45 cable (103), and they are translated by the PIC16C65 microcontroller (200) into an eight signal RS232 protocol. These RS232 signals are passed through a RS232 line transceiver (202) such as a LT1133A chip available from Linear Technology. A 25 pin D-Sub connector (204) connects to the other side of the line transceiver (202) and provides the point at which either the local client computer (122) or the server modem (126) makes a connection. See Specification, p. 16. Thus, the remote interface microcontroller (200) is connected to the microcontroller bus, and Applicant has amended Claim 14 to clarify this relationship.

C. *"It is not clear if the other microcontrollers are part of the remote interface or associated with other remote interfaces."*

The microcontroller (200) associated with the RIB may be connected to the microcontroller bus to provide data communication. In one embodiment, the other microcontrollers that the Examiner refers to are associated with the server computer (100) and are not part of the remote interface. One purpose of the microcontroller bus is to allow communication between the remote interface and the other microcontrollers which may provide services such as CPU controller, canister controller, environmental conditions controller, and so forth, with respect to the server.

D. *"It is not clear if the memory is connected to the microcontroller or to the bus."*

Figure 3 shows one embodiment where the memory (208) is connected to and is in "data communication" with the microcontroller (200). However, whether the connection is direct or indirect is irrelevant to the invention.

E. *"In lines 5 and 6 "capable of" is vague and indefinite."*

The Examiner also stated that the term, "capable of," is vague and indefinite. Applicant respectfully disagrees and submits that "capable of" refers to the ability to perform the designated operation which, in this case, is receiving and transmitting monitoring data.

F. *"In line 5 it is not clear from where and to where the monitoring data is received and transmitted."*

In one embodiment, the monitoring data at the first port (204) is received from the microcontroller (200) and transmitted to a client computer (122) or a server modem (126). See Figure 3. Applicant has amended Claim 14 to clarify this relationship.

G. *"It is not clear if the first port is connected to the bus."*

Claim 14 does not include the limitation of a connection between the first port and the bus. Further, in one embodiment, Figure 2 shows the first port connected to a server modem (126). It is the second port that has connectivity to the microcontroller bus.

H. *"In lines 6-8 it is not clear from where and to where the environmental conditions data is received and transmitted."*

The environmental conditions data includes such data associated with the server, or computing, system. Thus, in one embodiment, environmental conditions data is received from the server at the second port (226) and is transmitted to the microcontroller (200). Further, the environmental condition data is received from or transmitted by the server (100) and transmitted via the microcontroller (200) to the local client computer (122) or the server modem (126) via the first port. Conversely, environmental condition managing data is received by or transmitted to the local client computer (122) or the server modem (126).

I. *"If this is [environmental] data from a computer, it is not clear why this data is transmitted to the computer."*

The environmental data is received by the remote interface from the monitored computer, and transmitted by the remote interface to a monitoring computer. For clarification of identities, these computers may be referred to as server and client, respectively. An operator at the client computer may monitor the data or transmit instructions back to the server computer to modify the environmental conditions.

Claim 15

In reference to Claim 15, the claim has been amended to expand the acronym of "I²C" to "Inter-Integrated Circuit." The I²C protocol is used on a bi-directional, two-wire bus that may operate at 400 kbps. In one embodiment, the two wires carry information between the microcontrollers connected by the I²C bus protocol. For example, a microcontroller connected to the I²C bus could both receive and transmit data. *See Specification, p. 12-15.*

Claim 16

In reference to Claim 16, the examiner stated that it was not clear how a bus is a controller area network. Applicant has amended the claim to indicate that the microcontroller bus conforms to the Controller Area Network (CAN) protocol.

Claim 17

In reference to Claim 17, the Examiner stated that it was not clear how the first port is utilized if the monitoring data is stored in the memory. Applicant respectfully submits that the static random memory (SRAM) (208) is used to store, for example, system environmental condition data, system log data from the non-volatile memory (NVRAM), and other message data for transfer to the first external interface port (204) or to a microcontroller on the microcontroller bus via the second port. *See Application*, page 17. In one embodiment, the first port is used to connect the microcontroller to either the local client computer (122) or the server modem (126). The SRAM stores the data until the microcontroller retrieves the data and sends it to the first port.

Claim 18

In reference to Claim 18, the Examiner claims that since Claim 14 does not set forth a network, that it is vague and indefinite as to how there is a client computer. Applicant respectfully submits that the client computer may be a local computer or computing device (122) connected to the RIB (104) via the first port. *See Figure 1*. Claim 14 does not set forth a network because a network is not needed to be connected at the first port. In fact, a point-to-point communication link is a sufficient configuration. Figure 2 describes one embodiment where a client computer (124) is connected to a client modem (128). The client modem is shown linked to a server modem (126) connected to the RIB (104). Thus, a network is not required by the RIB to connect to the client computer.

Claim 19

In reference to Claim 19, the Examiner stated it is not clear for what security authorization is established (sic). Applicant respectfully submits that a message from the remote client side received via the RS232 port (204) may start with the "Identity" command, which identifies the system name. The "Identity" command could be followed by the "Security" command with a password that is checked against the password stored in the NVRAM. If the passwords match, the remote RS232 link is put in "secure mode" which establishes security authorization and the remote interface will now pass any "message" commands on to the microcontroller bus. Thus, in certain embodiments, only authorized computers having the proper passwords can access the server. *See Application*, page 21.

Claim 21

In reference to Claim 21, the Examiner stated that it was not clear from where the data comes. Applicant respectfully submits that the data sent to the microcontroller bus may come from the memory (208) where data is stored. See Application, page 17, lines 27-30.

In summary, Applicant respectfully submits that the indefiniteness rejection of Claims 14-21 has been overcome.

Discussion of the Claim Rejection under 35 U.S.C. § 102(e) and § 103(a)

Claims 14 and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Giorgio, et al. (Giorgio), U.S. Patent No. 5,761,085. Claims 15, 16, and 18-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Giorgio.

Applicant submits a *Declaration under 37 C.F.R. § 131 to Overcome Giorgio, et al.* by Tahir Sheikh, Karl S. Johnson and Ken Nguyen. Tahir Sheikh, Karl S. Johnson and Ken Nguyen are the joint inventors of Claims 14-21.

The *Declaration* includes facts showing a completion of the invention in this country before the filing date of the application on which the domestic patent issued (37 C.F.R. § 1.131(a)(1) and M.P.E.P. § 715). The showing of facts are such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to said date to a subsequent reduction to practice or to the filing of the application (37 C.F.R. § 1.131(b) and M.P.E.P. § 715).

The limitations of a remote interface, comprising a microcontroller, a microcontroller bus providing data communication with other microcontrollers, a memory in data communication with the microcontroller, a first port, in data communication with the microcontroller, being capable of receiving and transmitting monitoring data external to the remote interface, and a second port capable of receiving and transmitting environmental conditions data, wherein the environmental conditions data corresponds to the environmental conditions of a computer, and wherein the second port includes connectivity to the microcontroller bus, as recited in Claim 14, were conceived at least by November 12, 1996.

Due diligence in reducing the invention to practice was made either actually, or constructively until at least May 13, 1997 when the United States Provisional Patent Application

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No. 60/046,397 was filed, which is a priority application to the present application. Since Giorgio was filed on November 12, 1996, Applicant submits that Giorgio is removed from use as a reference for at least such claim limitations. Since Claims 15-21 are dependent on independent Claim 14, pursuant to 35 U.S.C. § 112, &4, they incorporate by reference all the limitations of the claim to which they refer. Therefore, the rejection of the dependent Claims 15-21 has also been overcome.

Therefore, in view of the above, it is submitted that Claims 14-21 are clearly distinguished from the cited art and are patentable.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that Claims 14-21 of the above-identified application are in condition for allowance. However, if the Examiner finds any further impediment to allowing all claims that can be resolved by telephone, the Examiner is respectfully requested to call the undersigned.

Respectfully submitted,

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Dated: 11/29/99

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